AURONEX
GOLD ECONOMY

The Auronex Whitepaper

Why Productive Gold Finance Should Exist

A Gold Economy Built For Participation, Settlement, And Redemption

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Abstract

Auronex exists to solve a structural failure in digital gold: most products let users hold or speculate on gold exposure, but very few create a repeatable economic path from participation into redeemable physical output. Auronex proposes a different model.

It combines a gold-linked capital rail, a native participation and settlement asset, and a controlled redemption asset so users can move through a full gold-finance cycle.

Users stake XAUM or ANX, earn through a four-layer reward engine governed by a recursive Sierpinski graph, and may convert eligible reward-origin ANX into AUGR and redeem physical gold through a catalog that begins with a 1 g commemorative souvenir card and scales into physical gold delivery starting at 10 g.

This paper explains why that structure exists, who participates and how, what each asset is responsible for, how the reward engine and network geometry work, where redemption begins and the platform can expand, and why Auronex is built as a gold economy instead of a narrow token product.

Contents

1 Why Auronex Exists

Gold is globally recognized, but most digital-gold products still stop too early.

They generally do one of three things:

- wrap gold exposure into a token without building a richer participation model,
- focus on trading liquidity rather than long-term economic use,
- or keep physical redemption available only at sizes that exclude ordinary users.

That last point is more important than it first appears. In many systems, redemption is theoretically available but practically irrelevant because the user must accumulate very large positions before delivery becomes possible. The user may own digital gold, but does not truly have accessible gold exit optionality.

Auronex is built from the opposite premise:

> Digital gold should not end at abstract ownership. It should open a staged path into productive participation, settlement, and physical redemption.

The protocol therefore treats gold finance as a cycle rather than a static asset wrapper. A user should be able to enter the system, participate economically, accumulate network value, and ultimately reach a physical redemption threshold that feels attainable.

1.1 The Redemption Accessibility Problem

Many digital-gold models preserve metal reference, but they do not democratize redemption. If physical withdrawal begins only at sizes such as 1 kg, the product mainly serves institutions, wholesale buyers, or affluent holders. Everyone else is left with synthetic ownership but no credible path to receive gold-linked products at an accessible scale.

Auronex solves this with a tiered gold-card catalog:

- users enter digitally,
- accumulate eligible ANX through protocol participation,

- convert into AUGR, the redemption asset,
- and redeem into gold-card products starting with a commemorative souvenir card at 1 g, with physical gold delivery available from 10 g upward.

That is not a cosmetic difference. It changes the meaning of the product. Auronex is designed so physical gold becomes progressively attainable instead of structurally distant.

1.2 The Productive Capital Problem

Traditional gold ownership is conservative, but economically idle. Many digital-gold products reproduce that same stillness in token form. They store value, but they do not generate an ongoing economic relationship between user, treasury, and network.

Auronex introduces productivity into the gold context by linking participation to staking, claims, settlement, conversion, and redemption. Matured positions do not simply return principal into the original asset. Instead, they become a decision point: restake into a new cycle, or settle into ANX at the current ANX value.

This structure makes the system more than passive custody. It turns Auronex into an operating economy with continuity between capital entry, network rewards, and eventual physical output.

1.3 The Release Discipline Problem

A sustainable gold-finance system cannot promise open-ended fixed daily token issuance regardless of participation scale.

Auronex therefore uses a bucketed release model. Released ANX inventory first enters a controlled epoch pool, then is partitioned into mining, affinity, and completion buckets before user-level allocation occurs. This prevents reward classes from behaving like independent issuance streams and keeps growth in user participation from silently overrunning the released reward budget.

Under the current design, the base declining curve releases up to 16,800,000 ANX to participants. Separately, up to 50 founder grants of USD 3,000 each may be funded from treasury-supplied excess in StakingEmissionVault, so combined participant distribution can exceed the base curve depending on the ANX price at founder-grant funding time. The unreleased difference from the nominal 21,000,000 ANX reward allocation is retained by Treasury, and Auronex may conduct a **burn event for unused rewards**.

1.4 The Passive Network Problem

Older network-participation models typically reward hierarchy: once a wallet reaches a rank, it earns indefinitely from that position regardless of whether it is still actively building or supporting the network.

Auronex replaces static rank accumulation with dynamic structural reward. Under the Sierpinski model, a wallet earns more only when its surrounding graph is genuinely denser and more complete. Dead branches earn nothing. Inactive wallets stop earning within 14 days. The top of the network must keep helping the structure stay active, rather than living indefinitely on old hierarchy.

1.5 Design Goals

Auronex is designed to satisfy six strategic goals:

1. make physical-gold redemption accessible below institutional thresholds,
2. connect gold participation to repeatable economic activity,
3. give ANX a necessary role beyond speculation,
4. preserve a distinct redemption layer instead of collapsing every function into one token,
5. let gold-linked treasury capital remain commercially productive,

6. create a launch path that begins with a narrow product and expands into broader gold-finance services.

2 What Auronex Is

Auronex is a gold-finance system built around three linked layers:

1. a gold-linked capital rail,
2. a native network and settlement rail,
3. a controlled redemption rail.

These layers correspond to three assets with different responsibilities:

Asset	Primary Role	Why It Exists
XAUM	Gold-linked capital entry	Anchors the premium participation path to a gold-referenced asset
ANX	Reward, settlement, network token	Carries participation, claim flow, settlement, and network utility
AUGR	Gold redemption asset	Converts earned network value into a reserve-disciplined path to physical gold

The system should not be understood as a multi-token complication. It is a separation-of-roles model. Auronex uses multiple assets because the protocol is solving more than one problem at once: capital entry, network participation, and physical redemption.

2.1 Why Not One Token For Everything

Single-token systems often sound elegant, but they usually blur incompatible responsibilities. One asset is expected to hold value, reward users, settle positions, represent redeemable gold, and remain commercially scalable under all of those pressures at once.

Auronex avoids that compression. XAUM carries gold-linked entry. ANX carries network participation and settlement. AUGR carries redemption. By separating these roles, the protocol can communicate more clearly with users and enforce more coherent economic rules.

2.2 The Auronex Thesis In One Sentence

Auronex turns gold from a static holding into a staged economy: enter with capital, participate through the network, settle into ANX, convert eligible value into AUGR, and redeem into physical gold.

3 ANX Supply And Allocation

ANX is hard-capped at 42,000,000 ANX. The full supply is minted once, assigned to governed treasury or custody destinations, and then released only through the published allocation policy.

3.1 Why The Allocation Matters

The allocation model is designed to make the public reward narrative credible. Rewards are not open-ended minting. They are drawn from a pre-funded pool, released under a declining curve, and kept subordinate to treasury discipline. The headline split is explicit: 21,000,000 ANX for staking rewards, 8,400,000 ANX for ecosystem and marketing, 6,300,000 ANX for team and founders, 4,200,000 ANX for reserve and treasury, and 2,100,000 ANX for market operations and liquidity support. That is why the reward system can promise participation without pretending that supply expands forever.

Pool	ANX	%	Vesting / Use
Staking Rewards	21,000,000	50%	Capped reward pool; the base declining curve releases up to `16,800,000 ANX`, and up to 50 founder grants of `USD 3,000` each may be funded from treasury-supplied excess in `StakingEmissionVault`; unreleased base inventory is retained by Treasury unless later burned
Ecosystem & Marketing	8,400,000	20%	Held in a governance-controlled 3/4 Safe multisig for ecosystem growth, partnerships, launch marketing, and network development from day one
Team & Founders	6,300,000	15%	48-month vesting schedule with a 12-month cliff, after which tokens vest linearly through month 48
Reserve / Treasury	4,200,000	10%	Held in a governance-controlled 3/4 Safe multisig for treasury reserves, protocol operations, and governed capital deployment
Liquidity / Market Operations	2,100,000	5%	Reserved for DEX liquidity, CEX listings, and market-making inventory under governance-controlled operational custody

4 Who Participates

Every Auronex participant enters through a staking package. The package is not merely a capital tier. It defines the wallet's **structural carrying capacity** inside the Sierpinski graph: larger packages activate more structural weight, support more rewarded occupancy, and produce higher daily yields for the sponsor chain.

4.1 The Package Ladder

Four tiers are publicly available. Above $5,000 there is a proportional **wallet extension band** running to $11,000; structural score and affinity-earning capacity continue to scale proportionally within that band.

4.2 Staking Duration

Every package is available across three canonical lock durations. The duration controls the **daily mining rate** — the fraction of package value that can be released as reward each day — and the **AUGR lock coefficient** applied at maturity conversion.

- **30 days** at 0.3 % per day
- **180 days** at 0.5 % per day
- **360 days** at 0.8 % per day

The daily mining cap is:

$$\text{Daily Cap} = \text{Package Value} \times \text{Daily Rate}$$

4.3 Package Weight In The Graph

Package size translates directly into structural weight. Larger packages do not buy false rank; they buy the right to activate more structural weight and therefore support more rewarded occupancy.

Package Position	Weight (w_{pkg})
Starter Vertex	1.00
Builder Vertex	2.00
Accelerator Vertex	5.00
Leader Vertex	10.00
Extension Band	scales proportionally

5 Why ANX Exists

`ANX` is the central participation asset of the system.

It exists because Auronex needs a unit that can do all of the following without pretending to be physical gold itself:

- reward users for protocol activity,

Table 1: ***Package Positioning Framework***

Position	Package	Points	Role
Starter Vertex	$50	1	Entry position for learning, activating one minimal triangle unit, and testing daily mining behaviour
Builder Vertex	$500	10	Commercial seller position designed for repeated sponsor activity and meaningful structural participation
Accelerator Vertex	$2,500	50	Serious network-building position with enough units to influence several formed sub-triangles
Leader Vertex	$5,000	100	Highest public package tier for strong occupancy, completion, and sponsor throughput
Wallet Extension Band	$5,001–$11,000	101–220	Proportional extension above the public ladder; structural score scales continuously to the $11,000 ceiling

Table 2: ***Package Duration Matrix — Daily Mining Cap (USD)***

Package	30 d / 0.3 %	180 d / 0.5 %	360 d / 0.8 %
$50	$0.15	$0.25	$0.40
$500	$1.50	$2.50	$4.00
$2,500	$7.50	$12.50	$20.00
$5,000	$15.00	$25.00	$40.00
$11,000	$33.00	$55.00	$88.00

- accept lower-friction staking entry,
- absorb settlement at maturity,
- connect network behaviour to redemption eligibility.

That combination makes ANX more than a reward token. It is the asset through which the user most actively experiences the system.

5.1 The Four Demand Vectors Of ANX

ANX sits at the centre of four recurring actions:

1. staking entry through the ANX rail,
2. reward claims from daily protocol participation,
3. settlement demand when mature positions resolve into ANX,
4. redemption ambition through the ANX → AUGR path.

This gives ANX a wider utility base than a simple emissions token. Its relevance grows as long as users keep participating in the system, not only when secondary-market attention is strong.

5.2 Supply Discipline

The supply of ANX is capped:

$$S_{\text{ANX}} \leq 42{,}000{,}000 \tag{1}$$

Scarcity is meaningful only when paired with repeated utility. The purpose of Auronex is not to create a scarce token and hope narrative follows later. It is to embed ANX inside a cycle of staking, claiming, settlement, and redemption so that demand for the token is structurally anchored to real economic activity.

6 Why AUGR Exists

AUGR exists because redemption requires its own accounting discipline.

If ANX were both the network token and the direct redemption token, the distinction between earned participation and redeemable gold access would collapse. Auronex instead introduces a controlled conversion step:

$$1\ \texttt{AUGR} = 1\ \text{mg of gold} \tag{2}$$

That simple relation gives the system a legible bridge between digital participation and physical output.

6.1 AUGR As A Redemption Asset

AUGR is not the primary market token of the ecosystem. It is the redemption instrument. Its job is to account for gold-denominated redemption value with clarity.

AUGR may be created through two broad paths:

- conversion of eligible reward-origin ANX,
- proof-of-reserve-backed minting against attested gold.

This keeps the redemption layer honest: ANX is where participation lives, and AUGR is where redemption value accumulates.

6.2 Reserve Integrity

The protocol enforces a hard invariant: every outstanding unit of AUGR must remain consistent with reserve-backed redemption logic.

$$\texttt{AUGR}_{\text{totalSupply}} \leq \texttt{GoldReserveOracle.reserveMg} \tag{3}$$

The role of AUGR is controlled redemption and later financing utility, not unrestricted monetary circulation.

7 How The Auronex Cycle Works

Auronex is easiest to understand as a five-step sequence.

7.1 Step 1: Enter Through XAUM Or ANX

Users may stake either XAUM, the premium gold-linked capital rail, or ANX, the lower-friction network rail.

This dual-entry model serves both users who begin from gold-linked capital and users who begin from the native network asset. Each position is represented by an NFT receipt that stores the economic parameters needed later for maturity handling and conversion logic.

7.2 Step 2: Earn Through Participation

Active participation generates daily ANX rewards through the four-layer reward engine described in Section 9. The system distinguishes three earning paths:

- **structural mining** — earned from holding active, occupied recursive positions in the graph;
- **affinity reward** — earned from the productive activity of wallets in your sponsor chain;
- **structural completion** — earned when local triangles form and complete under your wallet.

7.3 Step 3: Resolve Maturity Through Restake Or Settlement

At expiry, the user does not simply withdraw back into the original staking asset. Instead the user chooses:

- restake into a new cycle, or
- settle into ANX at the current ANX value.

This is one of the most important architectural choices in Auronex. It means the system is not merely holding gold-linked deposits in stasis. It is converting maturity into an active economic decision.

7.4 Step 4: Convert Eligible ANX Into AUGR

Not all ANX is equal for redemption purposes. Only eligible reward-origin ANX may move into AUGR.

That rule protects the meaning of the redemption path. Gold access is therefore tied to protocol participation, not merely to purchasing the network token on the open market and bypassing the system's economic sequence.

Users may enter the staking system with either XAUM or ANX, and ANX may also be acquired through secondary market liquidity venues such as PancakeSwap before being committed into staking. Rewards are distributed in ANX, and claimed reward-origin ANX no longer exits fully to wallet by default. On the standard route, post-fee claimed ANX is split 50 / 50: one half becomes wallet liquidity that may be restaked or sold where market liquidity is available, while the other half is reserved inside the protocol for the time-locked ANX-to-AUGR pathway. Users may also choose to direct 100% of post-fee claimed ANX into that metamorphosis reserve with no wallet payout. In the metamorphosis pathway, ANX is economically burned under the protocol's conversion and fee framework, with each burn recorded as a Proof of Metamorphosis, and the matured output is issued as AUGR, the network's gold-redemption voucher asset.

7.5 Step 5: Redeem Into Gold-Card Products

Once the user holds sufficient AUGR, redemption becomes possible through the product catalog. The launch catalog begins with a commemorative souvenir card at 1 g — a gold-embedded collectible designed as a keepsake. Physical gold delivery begins at 10 g and scales through 20 g, 50 g, and 100 g via insured international fulfilment.

This is where Auronex answers the accessibility problem directly. The user does not need to wait for kilogram-scale ownership. The catalog opens with collectible souvenirs to lower the entry barrier, then expands into physical delivery tiers as the user accumulates more AUGR.

7.6 Wallet Discipline

The per-wallet active staking cap is:

$$\text{Max Active Stake Per Wallet} = \$11{,}000 \tag{4}$$

This cap protects launch discipline and keeps early growth bounded by clear treasury and risk-management constraints.

8 The Sierpinski Network

The reward system is not a flat referral tree. It is a recursive geometric structure called the Sierpinski graph. Understanding the geometry is essential to understanding how Auronex rewards are calculated, because the graph directly governs earning capacity.

8.1 Two Separate Ledgers

The model runs on two ledgers that must never be confused:

- **Sponsor attribution ledger**: records who directly introduced whom. This ledger powers affinity rewards.
- **Graph geometry ledger**: records where each wallet sits inside the recursive Sierpinski graph. This ledger powers structural and completion rewards.

The non-negotiable clarity rule: **sponsorship decides attribution; graph placement decides geometry.** Without this separation, the model collapses back into an ordinary referral tree wearing triangle branding. A wallet may be directly sponsored by Alice but placed into a deeper recursive position because the Sierpinski engine is optimising structure, not sponsor cosmetics. Alice still receives the full affinity entitlement from Bob's production regardless of where the graph engine places Bob.

8.2 Three-Vertex Automatic Placement

Every new wallet enters the next available recursive position in the three-vertex system. No sponsor manually places a user. The graph engine decides where the wallet sits.

The placement rule:

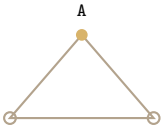
1. begin with one master triangle;
2. insert each new wallet into the next valid recursive slot;
3. when enough occupied slots exist to form a valid child triangle, mark that sub-triangle as formed;
4. when a formed child triangle fills all required slots, mark that sub-triangle as complete;
5. continue recursively as the network grows.

8.3 Triangle Occupancy States

Each local three-position unit moves through visible states:

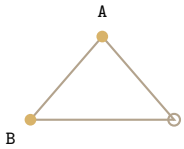
$$0/3 \rightarrow 1/3 \rightarrow 2/3 \rightarrow 3/3$$

1/3 occupied — initial visibility. The triangle exists but is too weak to be treated as productive.



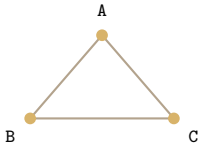
$\longrightarrow \quad 0.00 \times$ weight

2/3 occupied — formed triangle. The minimum occupancy threshold has been reached. The child triangle becomes formed and starts contributing to structural score.



$\longrightarrow \quad 1.00 \times$ weight

3/3 occupied — completed triangle. The sub-triangle is fully balanced. A premium applies because the structure is reproducible and genuinely active.



$\longrightarrow \quad 1.50 \times$ weight

This is the commercial point of the recursive design. Empty geometry should not pretend to be productive. Partially filled geometry earns less. Fully completed geometry earns more because it proves the network is maturing in a repeatable pattern.

8.4 Depth Unlock Policy

The network may display deep recursive structure, but paid earning depth is not infinite. Effective earning depth is controlled by:

- active package status,
- sponsor-gated affinity depth,
- active branch qualification,
- and treasury forfeiture of unqualified affinity shares.

This keeps the visible network deep for reporting and motivation while preventing passive or artificial depth from turning into an automatic payout obligation.

9 The Reward Engine

The daily reward budget is partitioned into four funded layers. The split is published and fixed:

$$30\,\% \;/\; 30\,\% \;/\; 25\,\% \;/\; 15\,\% \tag{5}$$

Layer	Share	Purpose
Structural Mining	30 %	Paid to active structural scores across the graph
Affinity Reward	30 %	Paid to qualified sponsor chains from producing wallets
Structural Completion	25 %	Paid for formed, occupied, and completed triangle progress
Treasury Reserve	15 %	Retained to support the gross affinity ceiling and economic operations

9.1 Layer 1: Structural Mining Reward

This is the base reward for being active in the graph.

Purpose. Reward wallets that maintain package value, daily mining eligibility, and productive structural occupancy.

The structural score formula.

$$S = N_{\text{occ}} \cdot p_{\text{base}} \cdot w_{\text{pkg}} \cdot m_{\text{active}}$$

- N_{occ} = number of occupied nodes attached to the wallet
- $p_{\text{base}} = 2$ = occupied-node base points per active node
- w_{pkg} = package-weight multiplier (1.00 at Starter, 2.00 Builder, 5.00 Accelerator, 10.00 Leader)
- m_{active} = branch-activity multiplier

The formula says a wallet's structural score rises only when visible occupancy, package capacity, and live branch activity are all present at the same time.

Branch-activity multiplier.

$$\text{ineligible branch} \;\rightarrow\; m_{\text{active}} = 0.00$$

$$N_{\text{active}} \geq 3,\; S_{14} \geq 2,\; T_{14} \geq 1 \;\rightarrow\; m_{\text{active}} = 1.25$$

$$\text{otherwise eligible} \;\rightarrow\; m_{\text{active}} = 1.00$$

where N_{active} is active occupied nodes in the branch, S_{14} is qualifying sponsor events or upgrades in the last 14 days, and T_{14} is triangle-improvement events in the last 14 days. Dead branches get 0.00, ordinary active branches get 1.00, and genuinely productive branches get 1.25.

Payout. A wallet's daily structural mining reward is its pro-rata share of the 30 % pool, capped at the daily mining ceiling:

$$R_{\text{mine}} = \min\left(\frac{S}{S_{\text{total}}} \times \text{Pool}_{\text{mine}},\; \text{Daily Cap}\right)$$

Package migration. When a wallet upgrades its package, the payout basis switches automatically to the new daily mining cap. The higher package weight means the wallet can sustain a proportionally larger uncapped structural score, but the daily cap still governs the actual release.

9.2 Layer 2: Affinity Reward

This is the sponsor-chain reward. Every qualifying production event from a downline wallet flows up through the sponsor attribution ledger according to a published 21-level schedule.

Purpose. Reward the full sponsor chain of productive wallets without paying a separate sales-reward path.

Settlement formula. For each qualifying production event:

$$\text{Affinity Payout} = \sum_{n=1}^{21} (\text{Event Base Bucket}) \times (\text{Level Rate}_n) \times (\text{Gate}_n)$$

where $\text{Gate}_n \in \{0, 1\}$ is 1 only when the sponsor at level n is qualified. Any blocked amount is first recorded as **passover**, reused within the affinity system, and only any residual remains in treasury reserve.

The published level schedule. The full published schedule totals **150 %** of the event base bucket. The first 100 % is funded from the live daily affinity pool. The extra 50 % is only payable when reserve-backed through the treasury-reserve function.

Affinity depth unlock. Paid depth is gated by the number of direct active sponsors:

Direct Active Sponsors	Paid Depth
1	L1 only
2	L1–L5
3	L1–L10
4	L1–L15
5 or more	L1–L21

Any value beyond the unlocked sponsor depth becomes passover and is first reused to support funded payout differences elsewhere in the affinity system.

Qualification. An upline receives affinity only if it is: active at settlement, within its unlocked paid depth, below its package-value payout cap, above the minimum valid package tier after mark-to-market checks, and inside the 14-day activity window.

Treasury forfeiture. If a listed depth is inactive or unqualified, that share does not compress upward. It enters the passover ledger first, may be reused to cover payout differences, and only any residual remains in treasury reserve. This prevents dead branches from blocking payout while also preventing accidental overpayment to active uplines.

9.3 Layer 3: Structural Completion Reward

This is the distinctive Sierpinski layer.

Purpose. Reward balanced network growth, not just endless width or random depth.

Why this beats rank titles. Under a rank model, a wallet mainly benefits from crossing a threshold and can drift toward passive extraction once the title is secured. Structural completion changes that behaviour:

- the wallet earns more when the surrounding graph becomes denser and more complete;
- weak, shallow, or inactive branches deserve less reward than productive ones;
- users are pushed toward building repeatable growth blocks instead of chasing one-off rank qualification;
- top-network wallets must keep supporting active structure rather than living indefinitely on old hierarchy.

Completion score formula.

$$C = N_{\triangle} \times P_{\triangle} \times m_{\text{state}}$$

where $N_{\triangle}$ is the number of qualifying sub-triangles, $P_{\triangle} = 30$ is the base triangle-point value, and m_{state} is the triangle state multiplier:

- initial occupancy (1/3): $0.00\times$
- formed triangle (2/3): $1.00\times$
- completed triangle (3/3): $1.50\times$
- dark or inactive triangle: $0.00\times$

One formed triangle scores $1 \times 30 \times 1.00 = 30$ points. One completed triangle scores $1 \times 30 \times 1.50 = 45$ points. Three completed triangles score

Table 3: ***Affinity Weight by Sponsor Level***

Level	Rate	Level	Rate	Interpretation
L1	20.00 %	L12	5.00 %	Strongest share for the direct sponsor
L2	15.00 %	L13	5.00 %	First indirect layer
L3	15.00 %	L14	5.00 %	Second indirect layer
L4	10.00 %	L15	5.00 %	Early duplication layer
L5	10.00 %	L16	5.00 %	Builder layer
L6	10.00 %	L17	3.00 %	Builder layer
L7	7.00 %	L18	3.00 %	Builder layer
L8	7.00 %	L19	3.00 %	Deep-network tail
L9	7.00 %	L20	2.00 %	Deep-network tail
L10	7.00 %	L21	1.00 %	Final tail for fully qualified builders
L11	5.00 %			Leadership tail

135 points.

Payout.

$$R_{\text{complete}} = \frac{C}{C_{\text{total}}} \times \text{Pool}_{\text{complete}}$$

9.4 Layer 4: Treasury Reserve

15 % of the daily reward budget is retained by treasury. Its purposes are:

- fund the 50 % bonus band of the published affinity schedule,
- absorb passover balances from unqualified affinity depths,
- provide downside protection and operating liquidity.

9.5 A Day In Numbers

Assume a daily reward budget of $10,000 and an ANX settlement price of $1.00.

Pool allocation.

- Structural Mining pool: $\$10{,}000 \times 30\% = \$3{,}000$
- Affinity Reward pool: $\$10{,}000 \times 30\% = \$3{,}000$
- Structural Completion pool: $\$10{,}000 \times 25\% = \$2{,}500$
- Treasury Reserve: $\$10{,}000 \times 15\% = \$1{,}500$

Example: Starter Vertex. Alice holds a $50 package on 30-day / 0.3 %. She has 2 occupied nodes, 1 direct active sponsor (L1 only). Bob, sponsored by Alice, holds $500 on 360-day / 0.8 %. Network structural score base = 2,000.

- Daily cap: $\$50 \times 0.3\% = \$0.15$
- Alice structural score: $2 \times 2 \times 1.00 \times 1.00 = 4$
- Raw mining: $\frac{4}{2000} \times \$3{,}000 = \$6.00$
- Capped mining: $\min(6.00,\ 0.15) = \$0.15$
- Bob's event yield: $\$500 \times 0.8\% = \$4.00$
- Alice L1 affinity: $\$4.00 \times 20\% = \$0.80$
- L2–L21 unqualified $\rightarrow$ treasury
- **Total: $0.95 = 4.52 ANX**

Example: Builder Vertex (mid-stage). Farah holds $500 on 180-day / 0.5 % with 3 direct active sponsors (L1–L10 unlocked), 6 occupied nodes, one completed and one formed triangle, and a strongly productive branch ($m_{\text{active}} = 1.25$). Network bases: structural score 3,500; completion score 8,400.

- Daily cap: $\$500 \times 0.5\% = \$2.50$
- Farah structural score: $6 \times 2 \times 2.00 \times 1.25 = 30$
- Raw mining: $\frac{30}{3500} \times \$3{,}000 = \$25.71$
- Capped mining: $\min(25.71,\ 2.50) = \$2.50$

- Direct event yield: $\$2{,}500 \times 0.8\% = \$20.00$
- L1 affinity: $\$20.00 \times 20\% = \$4.00$
- Completion score: $(1 \times 30 \times 1.50) + (1 \times 30 \times 1.00) = 75$
- Completion reward: $\frac{75}{8400} \times \$2{,}500 = \$22.32$
- **Total: $28.82 = 137.24 ANX**

The comparison is instructive. Alice earns a small but real reward from day one. Farah earns substantially more not because she paid more, but because she built a genuinely active triangle structure and an active sponsor chain.

10 Eligibility And Restake Discipline

The reward system rewards activity and enforces accountability. A wallet earns on any given day only when all four conditions are met:

1. Package mark-to-market value still qualifies for a valid package tier.
2. At least one direct productive event occurred in the previous **14 days**.
3. Daily mining click completed, or an active Mining Agent is running.
4. Total cumulative cycle rewards remain below **100 % of active package value**.

10.1 The Cycle Cap

The income cap creates a clean cycle structure. Once a wallet's total rewards reach 100 % of its active package value, earnings stop immediately. There is no deferred earning, no rollover. The cycle is complete.

Why the cap exists. Without a cap, early wallets at the top of the graph could extract value indefinitely from deep network activity while contributing nothing current. The cap ensures every wallet must recommit to stay in the earning cycle.

10.2 Restake

To restart the earning cycle after hitting the cap:

- Pay a **5 % restake friction** on the active package value, in `XAUM` or `ANX` as a separate payment.
- Wait through a **1-day activation cool-off** before the replacement cycle becomes reward-active again.
- The package principal is unchanged.
- The reward counter resets to zero.
- The wallet re-enters the system under the same package basis for structural score, mining-cap logic, and affinity attribution.

Restake friction examples.

$$\$500 \times 5\% = \$25$$
$$\$5{,}000 \times 5\% = \$250$$
$$\$11{,}000 \times 5\% = \$550$$

Why friction and not free restake. If restake were free, the cap would be meaningless. The friction ensures that continued participation has a cost that grows with package size. Larger wallets must return proportionally more value to the system to begin each new cycle, and the 1-day activation cool-off prevents the next cycle from becoming reward-active instantly at the moment of restake.

10.3 Tier Maintenance

If the mark-to-market value of a wallet's staking asset falls below the current package tier, the wallet automatically drops to the highest still-valid tier. Below $50, the wallet has zero rewards.

This rule prevents inflated participation from wallets whose economic contribution no longer matches their declared package tier.

11 Redemption And Physical Fulfilment

The redemption layer is intentionally staged.

11.1 The Launch Ladder

Launch begins with one live output: **the 1 g Commemorative Card**.

That is a strategic decision, not a limitation. The focused single-card launch is easy to operate, easy to explain, and easy for users to trust before physical tiers are expanded.

11.2 Product Ladder

Phase	Product	Weight	Purpose
Launch	Gold card	1 g	Flagship commemorative souvenir card
Expand	Gold card	10 g	First physical gold delivery path
Expand	Gold card	20 g	Mid-size physical accumulation path
Scale	Loomis fulfilment	50 g+	Larger-balance and treasury-grade delivery corridor

11.3 Gold Value And Service Value

Every redemption request contains two conceptual components:

- **gold-content value** represented in AUGR,
- **service value** covering processing, shipping, insurance, customs, and premium handling.

Separating these concepts matters for user trust. It allows the protocol to present the metal value clearly while accounting transparently for fulfilment costs.

12 Where Auronex Can Expand

Auronex does not begin as a universal gold-finance system. It begins with one narrow, intelligible cycle and expands from there.

12.1 Near-Term Expansion

The first expansion layer grows naturally from the launch cycle:

- larger redemption products,
- stronger partner distribution,
- deeper treasury deployment,
- tighter fulfilment operations.

12.2 Strategic Expansion

Beyond the initial redemption ladder, the architecture supports broader gold-finance services:

- AUGR-backed micro-financing at a target 70 % LTV,
- Visa / Mastercard payment rails for AUGR-linked purchasing utility,
- cross-border gold remittance,
- corporate gold treasury services,
- institutional APIs,
- strategic infrastructure alignment with SierpinskiChain for a future higher-throughput settlement layer,
- an optional future transition of ANX into SPC if that operating layer materially improves Auronex throughput,
- a future native gold asset layer through AUG.

The distinction between a token project and a financial platform is important here. Auronex is not meant to stop at one redeemable product. The launch product is the front door into a wider economic surface.

13 Why The Structure Matters

Auronex is built the way it is because each design choice solves a specific failure found in simpler models.

Problem In Simpler Models	Auronex Response
Digital gold stops at passive ownership	Auronex adds staking, settlement, and redemption as one operating cycle
Physical redemption is institutional-scale only	Auronex begins with 0.1 g and 1 g launch cards rather than 1 kg thresholds
One-token systems blur incompatible functions	Auronex separates capital entry, network utility, and redemption
Gold-linked treasuries remain economically idle	The maturity model makes capital and settlement more productive
Reward tokens lack durable purpose	ANX participates in entry, claims, settlement, and redemption
Rank models create passive extraction at the top	Structural completion requires ongoing network contribution to keep earning
Flat referral trees reward width over quality	The Sierpinski graph rewards balanced, reproducible triangle growth
Unlimited depth creates infinite passive payout	Affinity depth is gated by direct sponsor count; unqualified depth is forfeited

14 Roadmap

Phase 1 — Foundation

- launch XAUM and ANX staking on BNB Chain,
- launch the Sierpinski reward engine with structural mining, affinity, and completion layers,
- launch reward-origin-gated ANX → AUGR,
- launch the 0.1 g Commemorative Card and 1 g Commemorative Card redemption outputs,
- prove maturity handling through restake or settlement.

Phase 2 — Expansion

- launch 10 g and 20 g redemption products,
- deepen treasury operations and distribution,
- begin AUGR-backed financing use cases,
- expand the Mining Agent subscription tier.

Phase 3 — Scale

- launch the 50 g+ fulfilment corridor,
- expand remittance and treasury services,
- scale institutional and partner access.

Phase 4 — Sovereignty

- launch native AUG,
- reduce dependency on external gold-linked primitives,
- expand governance and network-level economic control.

15 Conclusion

Auronex exists because digital gold should do more than mirror ownership.

It should let users participate, earn from a structured reward engine, settle, accumulate redeemable value, and reach physical gold through a path that begins below institutional thresholds with 0.1 g and 1 g launch cards.

The Sierpinski reward model is the engine that makes this possible. By combining structural mining, sponsor-chain affinity, and triangle-completion rewards inside a single disciplined framework, Auronex ensures that the participants who actively build the network are the same participants who earn the most from it. Passive hierarchy accumulates nothing. Active network-building accumulates everything.

That is the role of the Auronex architecture:

- `XAUM` anchors gold-linked capital entry,
- `ANX` carries participation, settlement, and network utility,
- `AUGR` translates eligible value into disciplined physical redemption,
- the Sierpinski graph ensures rewards track real network health, not nominal position.

Auronex turns digital gold from static ownership into a working economy: private, productive, and built for deployment, conversion, settlement, and redemption.